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DEC 17 2002

TC 1700

Application # 09/517,258

Applicant Kent DesHotel

Art # 1725

Examiner Zinia Pittman

41207 Fitzgerald Street  
Addis LA 70710



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Distinctly, claims of subject matter which the applicant regards as his invention is

Claims #1(d) #2 #3 #4 #5 #7 #8  
#9(d) #10 #11 #12 #14 #15 #16(c) #17  
#18 #19 #21 #22 #23(c) #24 #25  
#26 #28 #29 #30(d) #31 #32 #33  
#34 #36 #37 #38(d) #39 #40 #42  
#43 #44(a) (b) (c) #45 #46 #48 #49  
#50 #51(e) (f) #52 #53 #55 #56  
#57(e) (f) #58 #59 #61 #62 #63  
#65 #67 #68

Question #1 from Examiner  
With regards to claims 1, 9, 30, and 63  
the limitation requiring "said pressure  
applicators as figured to extend behind  
said source of electric current" is  
indefinite.

The source of electric current or  
welding torch is positioned 1 inch  
behind the first contacting point  
of pressure applicators roller to plate  
and extends 36 inches beyond the

Last source of electric current or  
welding torch. Depending on welding processes required  
for job.

## Question #2

Does It is unclear to the examiner  
the exact positioning of the  
pressure applicators with reference  
to the source of the electric current.

"Dose behind said source of electric  
current refer to the same plane  
as the source of electric current or  
a different plane? Most welding

processes with high weld yielded products  
uses welding torches. The distance  
between the torch and plate to be welded  
is critical to proper welding procedure  
filler wire is feed from the torch  
to the plate being welded and an  
arc is created when the wire touches  
the plate. This distance varies with  
different thickness of plate material.

On thin plate the distance may be different  
from the bottom of torch to the top  
of plate then it would be for thick  
plate. Also for thick plate for full  
penetration of plate with the weld  
the edges of the plate are beveled with

top edge open and the bottom edge close to each other so the arc would be lower than the top edge of plate. More than one welding pass is required on thick plate in some instances to fill the beveled edges to the top surface of the plate.

This distance of torch and plate relationship can be achieved by using the contacting point on the rollers on the pressure applicators to the plate and adjusting the bottom of the welding torch up or down to the proper distance. So the contacting surface of the pressure applicators and source of electric current are held at different planes according to proper welding processes all though it may be the same plane in some ~~at~~ instances.

## Claim Rejection

Being sited with Luan et al (wo 88/06505). restraining means by applying flattening forces with a pair of fingers is doing ~~the~~ about the same thing as my invention but it limits the space around the welding machine area which limit product movement and slows productivity which is costly to manufactures. Figures 14-16 this pair of planar ~~workpieces~~ roller support members are in a fixed position and the work pieces must be guide through it which limits the shapes of plate and sizes of plate being welded together. Some companies bend plate at different angles before welding them together ~~with~~ which would make this apparatus none useable.

I hope you can see the benefits my invention will have to the construction of many and difficult task and its mobility

to do job eneywhere with  
easa. I hope I have cleared  
or answard your question clearly.  
If you have any questions  
please call me. my phone  
# is area code 225-687-9103

Thanks Kent J Deshotel  
date 10-5-~~20~~02

P.S. I sent a copy of my  
first draft of my invention  
so it may be of some  
help to you.

Thank you very much

my address is 4207 Fitzgerald St  
Add. 5 La 70710



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## Description of Invention

1. Describe the concept of my invention?

To hold two edges of plate steel firmly and level against a flux coated copper backing bar so that a fully penetrated weld (Top and bottom of plate steel) can be without defects, spillage of weld on the bottom side and sagging (under cut) of weld on the top side of plate steel due to a lack of sound pressure between the two plate steel edgesurfaces and the flux coated copper backing bar.

2. How does it work?

Two sets of rollers mounted side by side, level in all directions, and in line with a gantry which is in line with a welding bed. An equal space is held between the front and back of rollers to allow a welding process to take place between the rollers. The roller assembly and welding torches are mounted on the same lifting leg of a trolley assembly which travels the length of the gantry. The welding bed is made up of two side walls that have wear bars mounted on top of them. The wear bars are wider than the side walls and are mounted on top and

flush with the outer side of the sides, which leaves a overhang of the wear bar on the inside of the bed, which catches the channel that the copper backing bar rest on, that is pushed up by an air bag. The roller assembly rollers are set vertically approximately  $\frac{1}{4}$ " wider than the outer sides of the welding bed, leaving the rest of the rollers to extend inward towards the weld seam sight. Thus keeping weld edges level and firmly in contact with the flux coated copper backing bar. The welding bed has magnets along the outer sides of the welding bed mounted level with the top of the wear bars. The magnets are mounted on hydraulic rams that able them to move up to the bottom of plate steel, magnetize, and pull the plate steel down to the wear bars height. The roller assembly will be pushed down from above by an air ram that raises and lowers the trolley lifting leg. The roller assembly will come down from above the two steel plates and push them down to the wear bars, and by the width of the rollers extend inward toward the weld seam sight the rollers will insure the plate steel edges of a firm contact with the flux coated



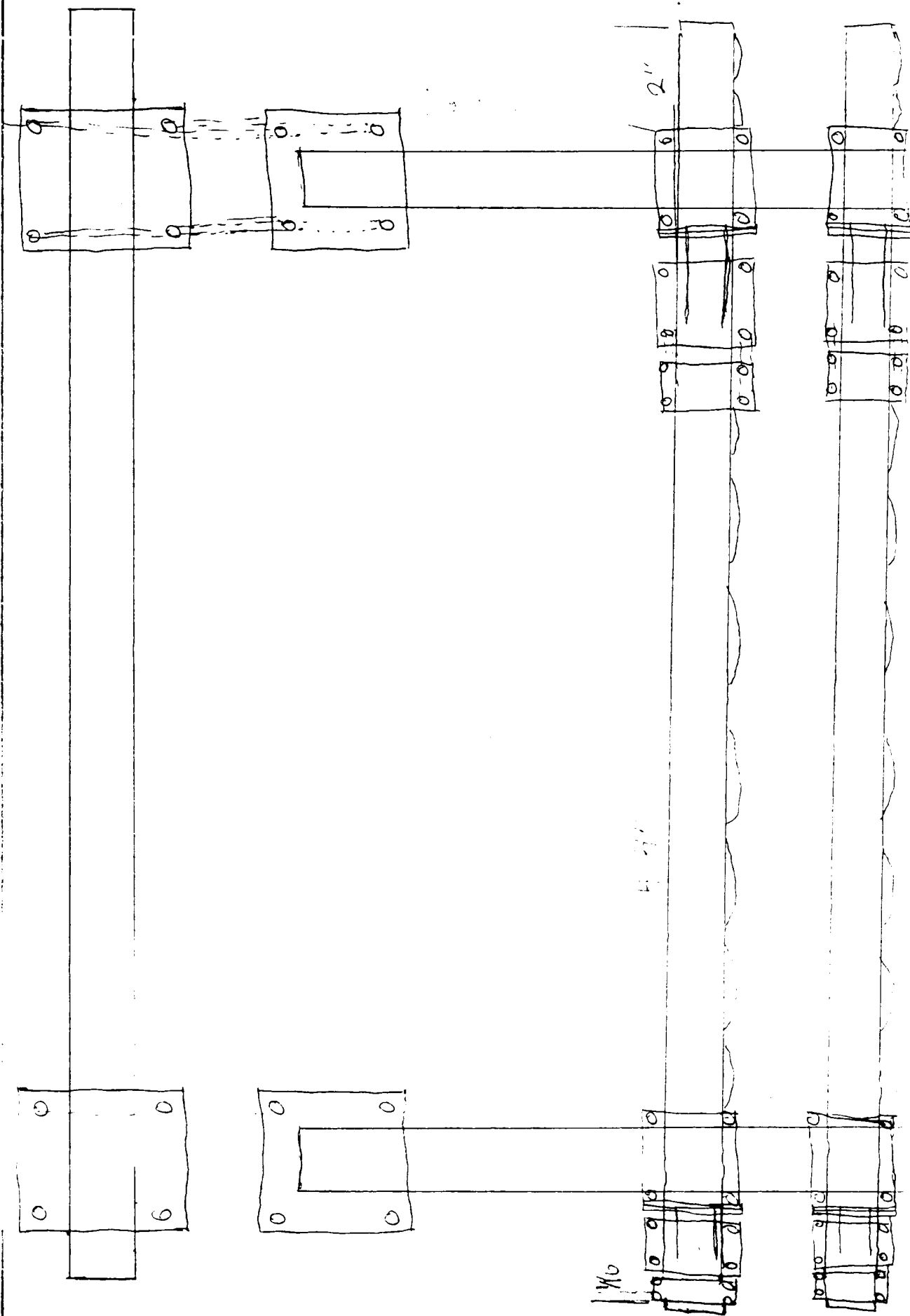
copper backing bar. The trolley assembly will be set to move forward at a desired speed for welding. The weld is made while the roller assembly holds the two steel plates down level long enough so that the weld puddle has time to cool and harden as it moves toward the end and to the end of the weld seam.

3. What problem(s) does it solve?

The fully penetrated one sided welding process has no problems of performance when the plate steel is in perfect flatness and straightness. The problems begin when the plate steel is not perfectly straight and flat. The magnets hold these unstraight steel plates down against the wear bars of the welding bed at a distance of about 9" between the magnets, as the two steel plates meet, if one plate is straight and the other plate is unstraight, there will be a uneven union of the two edges of plates, causing a (High/Low) effect. Also the steel plate from that point on is left up to its own integrity to hold itself in place. The flux coated copper backing bar is lifted up by an air bag, it comes up against the two uneven surfaces forming a good seal on the lower steel plate and a bad or loose seal on the higher steel plate which

causes the weld to spill off to the side that there is a bad seal on the bottom side of the plates, it also leaves the weld on top of the steel plates sagging or undercut below the steel plate surface. These defects have to be repaired either by rerunning the welding machine over the low spot or welding the low spot by hand on the top side of plates only. The under side of the steel plates where the weld spills off to the side has to be gaudged off and rewelded by hand. Also when welding three or more steel plates side by side together, one weld is made at a time. After the first weld has been made and the second weld is being made, the edge of the plate that the first weld was made on tends to buckle up due to cooling and drawing of metal from the first weld causing a (High/Low) effect also.

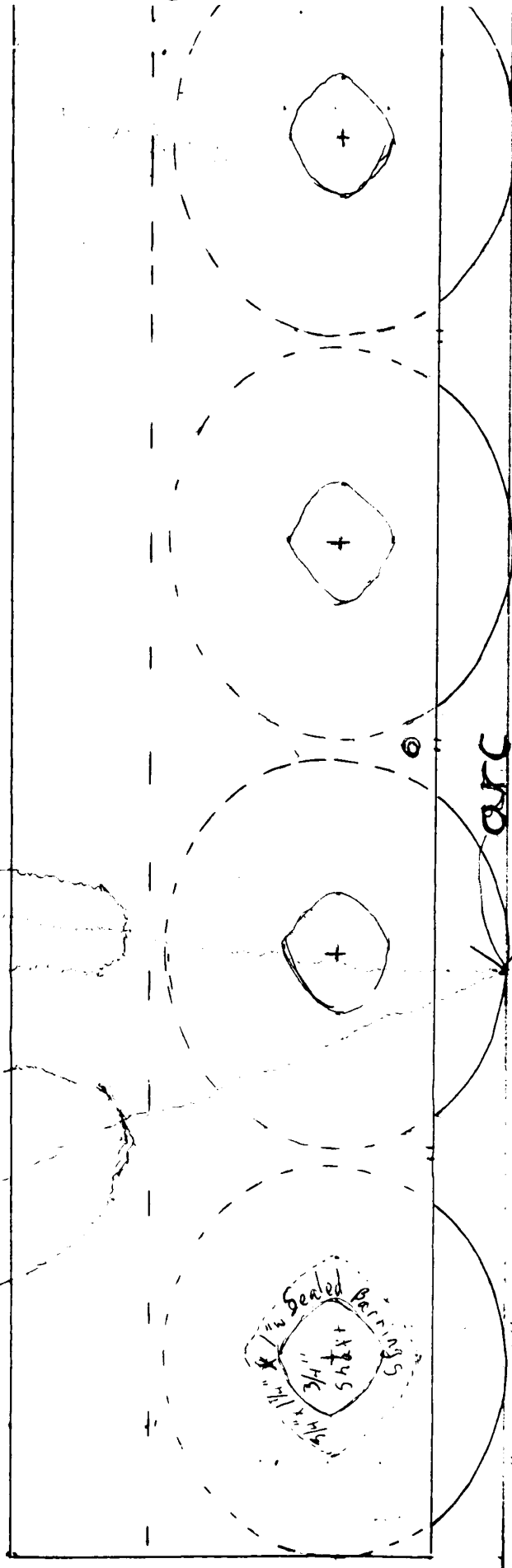
The introduction of my roller assembly method to this fully penetrating one sided welding machine will solve the performance problems this machine has with imperfect steel plate surfaces. This will save companies a great deal of time and money that results from rework and repair of defective welds. Inventor Kent J. Hawke  
6-30-99



← Travel

5/16" wire

Welding  
Touches



3/4" ID x 1 1/4" OD x 1" with Sealed Pin Barriers

arc

Plate Surface Topography

6" 1 2" 6"

